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(54) SUBSTRATE FOR MOUNTING SEMICONDUCTOR ELEMENT

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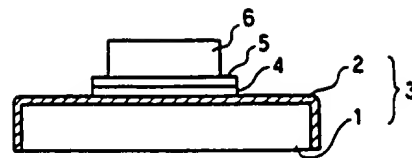
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PURPOSE: To obtain a substrate with superior electric insulation and heat-conductivity by forming a thin coating film of diamond on the surface of a metal substrate with superior heat-conductivity with PVD or CVD method.

CONSTITUTION: A substrate for mounting a semiconductor element 3 is formed with a metal plate 1 with superior heat-conductivity and a diamond coating layer 2 applied on the surface of the plate with PVD or CVD method. Then, a semiconductor element 6 is mounted through a metallizing layer 4 and an Au plating layer 5. The diamond coating layer 2 obtained with PVD and CVD method has smaller roughness of the surface and is superior in closely contacting with the substrate. When a semiconductor is mounted on the substrate, no gap is produced between the element and the substrate, thereby making it possible to increase the radiation of heat from the element.



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